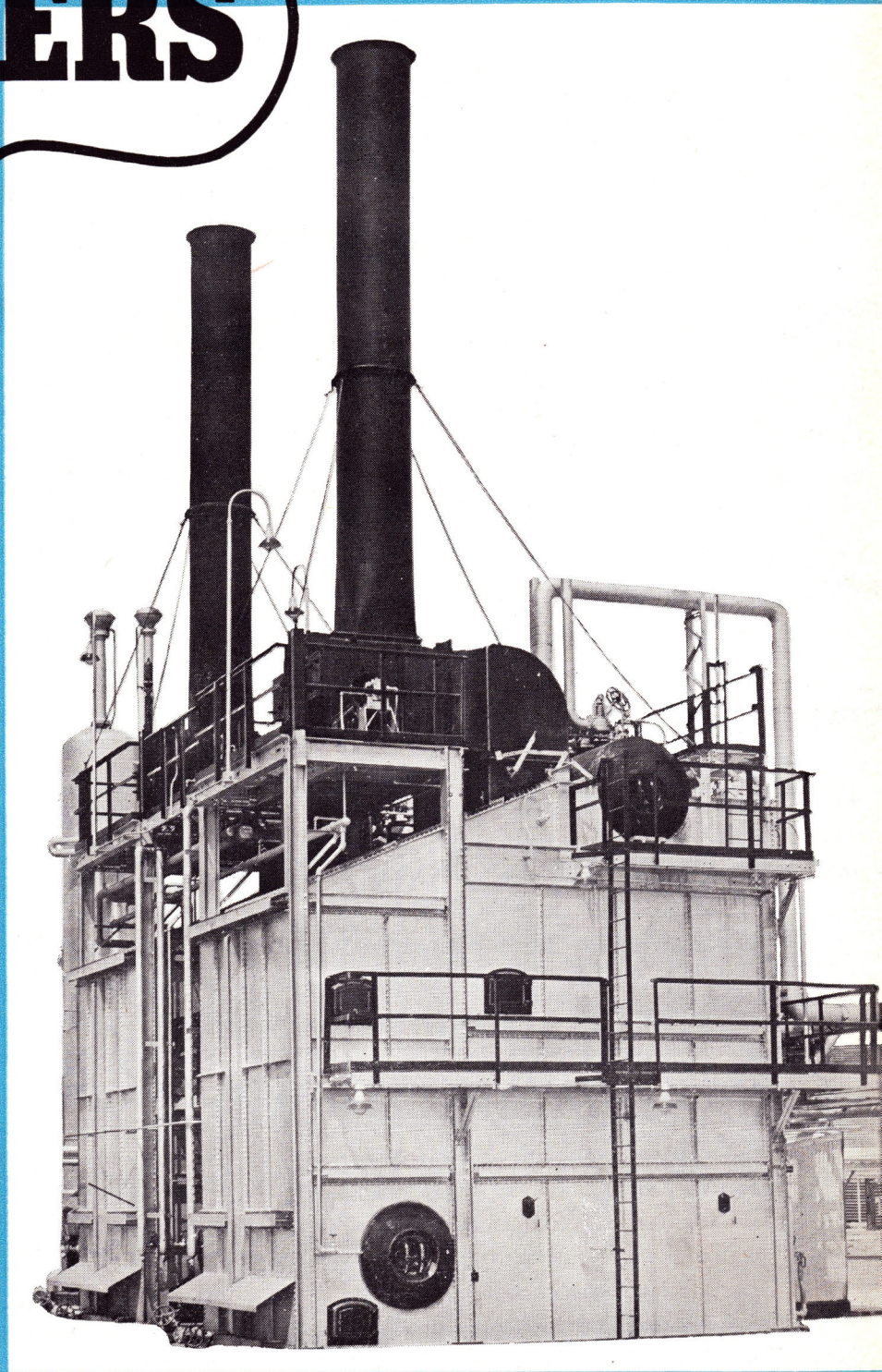
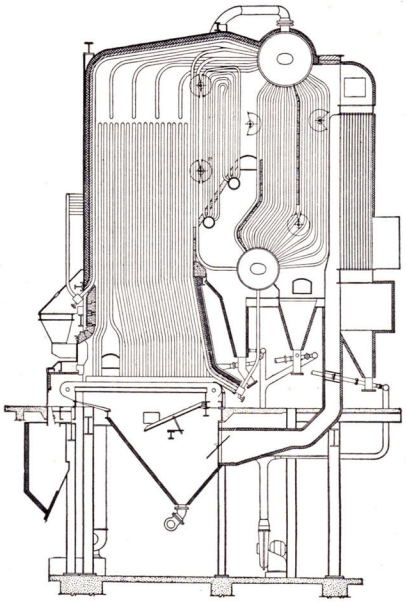
UNION BOILERS



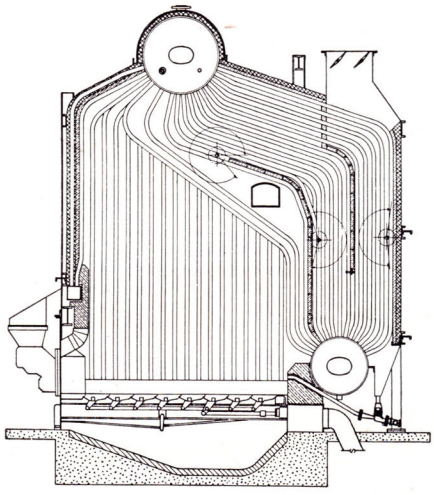
Union Iron Works • Erie, Pa.
since 1890

2 drum type "VO"



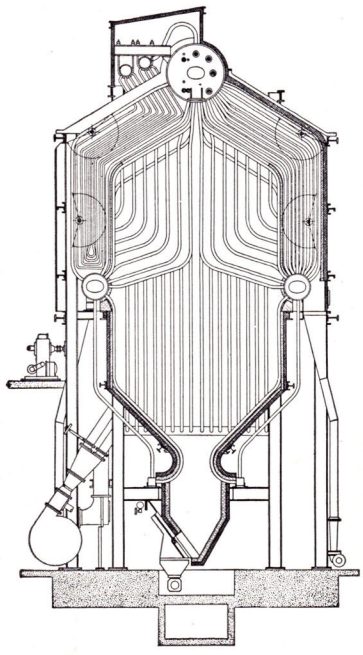
This is a drum over drum design with a vertical tube bank which provides large furnace volume, fully water cooled on the sides, front and roof, in front of the boiler proper. As the furnace section is essentially a separate unit, the dimensions can be easily adjusted to accommodate any type of firing. The unit shown has a drainable type superheater placed behind the screen tubes. The space required for any desired steam temperature or type of superheater can be provided without affecting the furnace arrangement. The heat recovery equipment, air heater or economizer, or both, forms the rear wall of the boiler. Due to this compact design, units of high capacity can be installed in limited space conditions. The location of the boiler and air heater hoppers and the design of gas passes insures effective collection of cinder from all parts of the setting for re-injection.

2 drum type "O"



These boilers with fully water cooled furnaces are constructed with all water wall supply tubes inside the setting. Because of the fully water walled design, a minimum of unprotected brickwork is exposed in the furnace. All tubes are of the same diameter, spaced so that any tube can be easily replaced. The baffling provides a uniform distribution of the hot gases entering the tube bank and complete travel over the heating surfaces which are thoroughly cleaned by not more than three soot blower elements. The entire weight of the boiler and water walls is carried in overhead suspension steelwork. The settings for these units consist of refractory tile, insulation and heavy gauge panel type steel casing. Ample furnace length and volume is provided for four different firing methods: oil or gas burners, underfeed stoker or spreader stoker.

3 drum type "H"

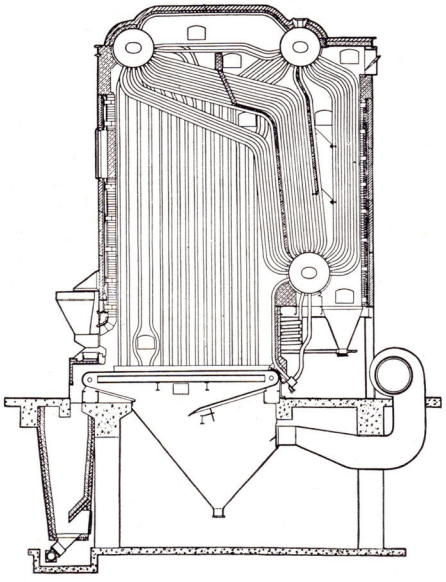


The Union "H" type steam generator is an extremely simplified steel cased unit with a self-contained furnace. The arrangement of drums and tubes provides a symmetrical design with a tube bank on each side forming an integral water cooled furnace. The unit shown is arranged for combination firing of pulverized coal, gas and oil. The superheater is located in one side only, providing constant superheat over a wide load range for all fuels and varying excess air. This is accomplished by automatic adjustment of the boiler outlet dampers, controlling the gas flow across the superheater. The unit is regularly built with a steel clad insulated setting, and is readily adapted to outdoor installation.

This design will accommodate any fuel or firing method for any desired capacity or pressure.

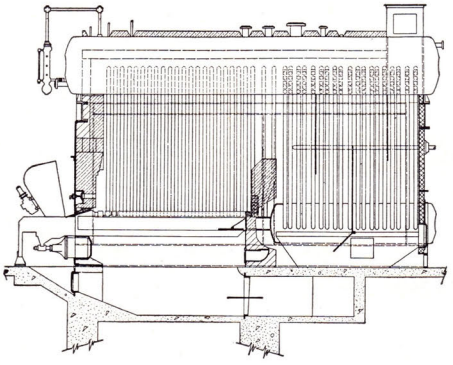
bent tube boilers

3 drum type "A"



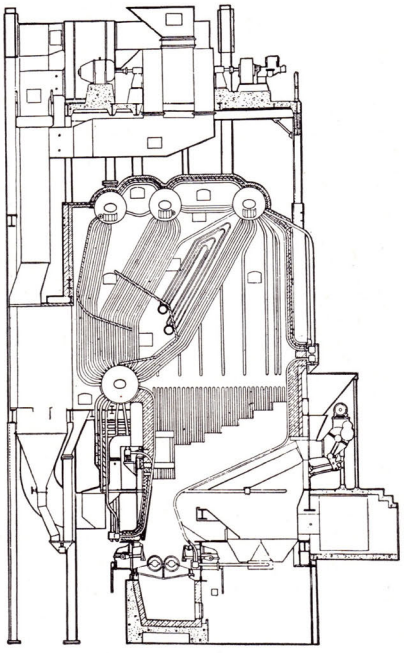
The Union "A" type is a 3-drum design that utilizes special front tube bank curvature to increase the radiant surface, which accelerates the speed of circulation and rate of steaming. This design of tube bank provides more furnace volume without increasing the setting dimensions and the short, high furnace is particularly suited to stoker firing because of the long vertical flame travel. The elevated position of the front bank tubes provides more effective exposure of the side water wall tubes to the radiant heat of the furnace. For full coverage of the side wall area the wall tubes can be connected from lower side wall headers directly into the top drums or into upper intermediate headers. The long vertical rear tubes function effectively as an economizer section.

3 drum type "S"



These compact boilers have fully water walled furnaces that do not require circulator connections while the setting, except for the front and bridge walls, is constructed of refractory tile, protected by water cooled surfaces, backed up with block insulation and a panel type steel casing. They can be shipped fully assembled in sizes up to 300 HP. As the Union S-type boiler has a narrow over-all width and provides a large furnace volume in a low setting height, units of high capacity are well adapted to limited space conditions. The boiler weight is fully suspended overhead and is carried on a steel base so that assembled units are easily handled in the field. The convection bank of the boiler is provided with soot hoppers between the lower drums, simplifying cleaning and removal of fly ash.

4 drum type "B"



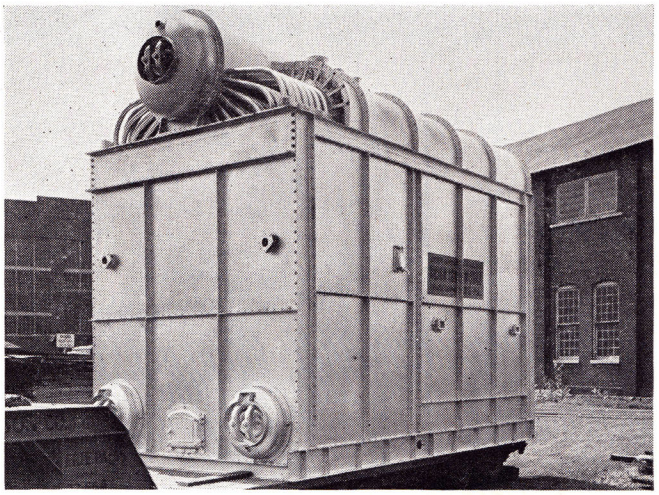
This is a typical design of a Union 4-drum boiler. Gas, oil, or low fusion Western coal can be readily burned in this furnace which is fully water cooled and provided with cast iron armor protection. Gas or oil is fired through the bridge wall by use of combination burners. Coal firing is by means of a water cooled multiple retort underfeed stoker, equipped with clinker grinding rolls.

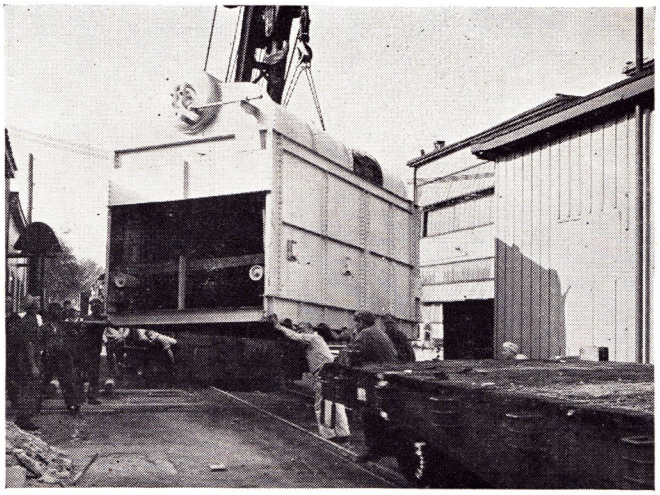
Preheated air is supplied from a regenerative type air heater to both the combination burner and stoker, with cinder eliminating equipment installed ahead of the heater and induced draft fan. The superheater is of the drainable type.

This catalog describes basic designs of UNION steam generating equipment. As every installation is custom built there are many specific applications not shown.

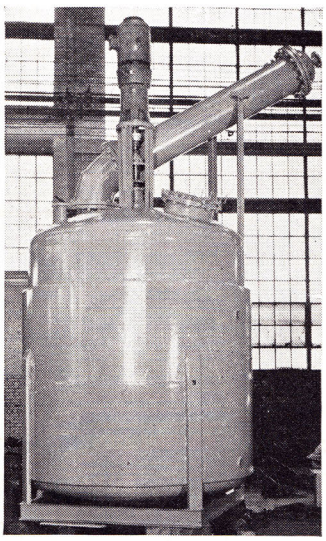
UNION BOILERS

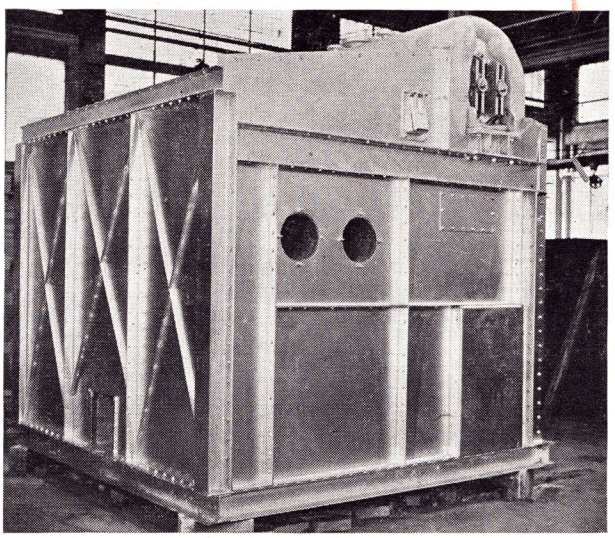
type S—package boiler





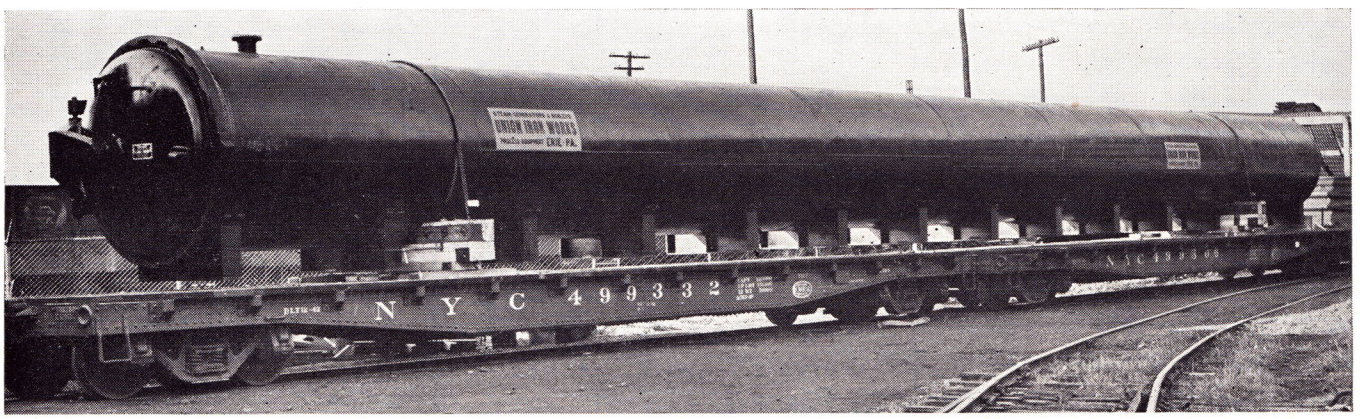
custom designed and process equipment





Union Products

Complete Steam Generating Units • Dowtherm Vaporizers • Resin Kettles • Agitators • Autoclaves • Process Heating Furnaces • Heat Exchangers • Pressure Vessels • Welded Fabricated Steel



Union Iron Works

Erie, Pennsylvania